



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,059	04/01/2004	Henry Copeland	5101-89373	9637
24628	7590	11/14/2007		
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			EXAMINER MCGOWAN, JAMIE LOUISE	
			ART UNIT 3671	PAPER NUMBER
			MAIL DATE 11/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/816,059	<b>Applicant(s)</b> COPELAND, HENRY	
	<b>Examiner</b> Jamie L. McGowan	<b>Art Unit</b> 3671	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 13 is objected to because of the following informalities: Numerous typographical errors are present in claim 13. the word "frane" should be changed to --frame-- in line 3; the word "forwards" should be changed to --forward-- in line 5; the word "bend" in line 22 does not make sense (examiner assumes this word should be changed to --being--); the word "bade" in line 26 should be changed to --blade--. Please proof the claims to ensure that more of these errors do not exist. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Poll (5,159,887).

Regarding claim 1, Poll discloses a planting machine for planting seedlings into soil in a regular uniform sequence, comprising:

- A frame (30,32,36)
- At least one plant delivering unit comprising
  - A means for conveying seedlings from a point of manual insertion to a point of placement in the soil
  - Means (38) to open a furrow in the soil
  - Means (20) to close the furrow after seedling delivery
  - A rotatable drum (52) with compartments (46-51) around its outermost surface for conveying seedlings from a point of manual insertion to a point

of release, the compartments (46-51) being outwardly open for reception of manually inserted seedlings and for release of seedling to next delivery stage, the next delivery stage including

- an upright conduit means (61) being open at its upper and lower ends and of sufficient size and located in proximity of, and exposed to, rotatable drum (52) for acceptance of seedlings released from drum, the conduit means guiding seedling from point of release to point of delivery to furrow opening means

Regarding claim 2, the rotatable drum (52) has a central shaft, being mounted at the end of the drum for rotation about its lengthwise axis, compartments (46-51) in said drum being defined as the space between adjacent plates mounted for rotation on outer surface of said drum (figure 2).

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poll (5,159,887) in view of Williams (6,327,986).

Regarding claims 3, 6 and 10, Poll discloses the invention as described above, but fails to disclose that the release of the seedlings into the ground can be facilitated by a blast of air. Like Poll, Williams also discloses a planting machine. Unlike Poll, Williams further discloses the use of an air jet (28, Figure 4) to facilitate planting by keeping the delivery of seedlings more uniform and predictable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include

Art Unit: 3671

the air jet of Williamses in the planter of Poll to facilitate more even planting due to more accurate discharge of the seeding from the conduit means

Regarding claim 7, the combination of Poll and Williamses discloses that the plant delivering unit is mounted on the frame (30,32,36).

Regarding claim 8, the combination of Poll and Williamses discloses that the frame is suitable for being pulled behind a tractor (Poll column 5 lines 34-35).

Regarding claim 9, the combination of Poll and Williamses further discloses a traction wheel (33), the traction wheel being operable interconnected with the plant delivering unit to drive the plant delivering unit (Poll – column 5 lines 34-43).

Regarding claim 11, the combination of Poll and Williamses discloses that the jet is a jet of air from a nozzle.

Regarding claim 12, the combination of Poll and Williamses discloses that the rotatable drum (52) conveys the seedlings to the point of release.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poll (5,159,887) in view of Williamses (6,327,986) as applied to claim 3 above, and further in view of Bouldin (5,860,372).

While the combination of Poll and Williamses discloses the device described above, it fails to disclose a manually adjustable seedling release point. Like the combination of Poll and Williamses, Bouldin also discloses a planting device. Unlike the combination, Bouldin further discloses that it is advantageous to be able to reposition the air jet to accommodate various sizes of seedlings as depicted in Figures 6A and 6B. It would have been obvious to one of ordinary skill in the art to modify the planting machine of the combination of Poll and Williamses to allow for adjusting the point of

Art Unit: 3671

seedling release because it allows for adaptability to varying sizes of seedlings released making the device more versatile.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poll (5,159,887) in view of Bouldin (5,860,372).

Regarding claim 5, Poll discloses the device as described above but fails to disclose that the upright conduit could have a rectangular cross section. Like Poll, Bouldin also discloses a planting machine. Unlike Poll, Bouldin further discloses a rectangular conduit that is open and unrestrictive to the flow of particles to allow for planting of varying size of seedlings. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the planting machine of Poll to have a rectangular conduit that is open as an alternate design choice so as to allow for versatility in which types of plants the machine can plant efficiently.

8. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poll (5,159,887) in view of Williamses (6,327,986) and further in view of Boots et al. (4,290,373).

Regarding claim 13, Poll discloses a seedling planter comprising:

- A frame (30,32,36) having a front end, a rear end, a top and a bottom
- A hitch attached to the frame (Poll discloses that the device is meant to be pulled by a tractor (column 5 lines 34-35))
- A planter console on top of said frame
- A traction wheel (33) mounted on the frame whereby forward motion of the frame imparts rotational motion to the traction wheel
- A first drum shaft (52) rotatably mounted on the planter console

Art Unit: 3671

- A first planter drum axially mounted on the drum shaft such that the first planter drum is fixed with respect to the drum shaft and rotatable with respect to the planter console
- A drive line operably connecting the traction wheel to the drum shaft, whereby rotation of the traction wheel is transmitted by the drive line to the drum shaft causing the rotation of the drum shaft and the drum (column 5 lines 34-43)
- Flights (46-51) mounted on the planter drum extending radially from said first planter drum and defining openings between the flights for receiving seedlings
- A fixed release point (into 63) at a position during the rotation of the planter drum at which seedlings are released from the flights
- A plow blade (38) mounted on the bottom of the frame for opening a furrow for receipt of the seedlings
- A funnel shaped plant guide (63) mounted on the frame behind the plow, for receiving the seedlings released from the first planter drum at the release point, whereby seedlings are conveyed from the drum to the furrow by gravity and not by mechanical conveyance
- Furrow closing fins (54,56) mounted on the frame behind the plant guide for closing the furrow, whereby seedlings are planted at regularly spaced intervals in the furrow

While Poll discloses the invention as described above, it fails to disclose that the release of the seedlings into the ground can be facilitated by a blast of air. Like Poll, Williames also discloses a planting machine. Unlike Poll, Williames further discloses the use of an air jet (28, Figure 4) to facilitate planting by keeping the delivery of seedlings more uniform and predictable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the air jet of Williames in the planter of Poll to facilitate more even planting due to more accurate discharge of the seeding from the conduit means

While the combination of Poll and Williames discloses the invention as described above, it fails to disclose specifics about the air jet. The examiner takes Official Notice that it is known in the art to use an air compressor to power an air nozzle and that a hose would have to connect the air compressor to the nozzle for proper conveyance of air to the desired location.

While the combination of Poll and Williames discloses the invention as described above, it fails to disclose that the traction drive wheel can be located at the rear of the frame or that the device can be mounted to a tractor with a three point hitch. Like the combination of Poll and Williames, Boots et al. also discloses a machine for seedling planting. Unlike the combination of Poll and Williames, Boots et al. further discloses that the traction wheel can be mounted at the rear of the frame and that the device can be mounted to a tractor using a three point hitch. It would have been obvious to one of ordinary skill in the art at the time the invention was made to move the traction wheel to the rear of the planting device as an alternate design choice capable of performing the same function.

Regarding claim 14, the combination of Poll and Williames discloses that the air compressor is driven by the tractor power take-off.

Regarding claim 15, the combination of Poll and Williames discloses that the apparatus further includes an operator bench (24) mounted on the top of the frame, whereby an operator seated on the bench is within arm's reach of the console such that an operator seated on the bench can drop seedlings into the opening between the flights radially extending from the planter drum, wherein the first planter drum rotates such that the direction of movement of flights along the upper portion of the planter drum is away from the operator bench and towards the release point for release of seedlings to be dropped on the plant guide (Poll - column 5 lines 40-41).



Art Unit: 3671

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poll (5,159,887) in view of Williames (6,327,986) and Boots et al. (4,290,373) as applied to claim 13 above, and further in view of Paul (4,807,543).

While the combination of Poll, Williames and Boots et al. discloses the invention as described above, it fails to specifically disclose that there could be a second planter drum mounted on a second drum shaft. Like the combination, Paul also discloses a seedling planter. Unlike the combination, Paul discloses that there can be more than one planter (18) on the frame. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second planter on the frame of the combination as taught by Paul to increase the efficiency of the planting operation by enabling the user to plant two rows in one pass.

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poll (5,159,887) in view of Williames (6,327,986) and Boots (4,290,373) as applied to claim 13 above, and further in view of Bouldin (5,860,372).

While the combination of Poll, Williames and Boots discloses the device described above, it fails to disclose a manually adjustable seedling release point. Like the combination of Poll, Williames and Boots, Bouldin also discloses a planting device. Unlike the combination, Bouldin further discloses that it is advantageous to be able to reposition the air jet to accommodate various sizes of seedlings as depicted in Figures 6A and 6B. It would have been obvious to one of ordinary skill in the art to modify the planting machine of the combination of Poll, Williames and Boots to allow for adjusting the point of seedling release because it allows for adaptability to varying sizes of seedlings released making the device more versatile.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie L. McGowan whose telephone number is (571)272-5064. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on (571)272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jamie L. McGowan  
November 9, 2007



**Thomas B. Will**  
Supervisory Patent Examiner  
Group 3600